

CHILD SAFETY SEAT

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BACKGROUND OF THE INVENTION

Child safety seats for use in automobiles and the like are of course well known, and in widespread use, their use being driven by safety considerations and the laws of most or all of the states of the USA. A typical child safety seat has a seat body with side wall portions, and a retention harness which comprises opposed harness side portions, each with a connectible latch. Often, a third latch member is positioned on a central, forward portion of the child's seat for engagement with the two connectible latches, to provide firm strapping for securing a child in the safety seat. Frequently, a carrying handle of inverted U-shape cross section goes over a central portion of the seat, to permit carrying of the child safety seat, particularly when the seat is designed for infants.

As a continuing problem, the harness side portions can rest loosely on the surface of the seat when the seat is not in use. Thus, when a child is placed into the seat, the child frequently sits on the harness side portions. Then, the parent must fish underneath the child to pull the harness side portions out for connection with the third harness latch or other connector. This adds a significant inconvenience to the use of child safety seats.

In accordance with this invention, a child safety seat is provided where the opposed harness side portions are temporarily retained at the side of the seat, so that when the parent puts the child into the seat, they do not become lost under the sitting child, requiring extra fumbling effort to search for them and bring them out for use.

DESCRIPTION OF THE INVENTION

This invention relates to a child safety seat which comprises a seat body having opposed side wall portions, and a retention harness comprising opposed harness side portions, each harness side portion having a connectible latch. A retention member is carried on each side wall portion to temporarily connect and hold the latch in a laterally spaced position from the other latch, and typically, with each connectible latch being at a relatively raised lateral position, so that they are not under the child when the child is placed into the seat. Thus, placement of the child into a safety seat is facilitated, prior to latching the retention harness latches together, typically with a third, central latch member.

In some embodiments, the opposed side wall portions may further comprise a carrying handle of inverted U-shape, having arms which are attached to the remainder of the opposed side wall portions, with each retention member being carried on one of the arms.

In some embodiments, each retention member may comprise a hook member which is carried on an extensible member. The extensible members may each be biased to retract toward one of the laterally spaced positions, but they may be extended to permit latching of the connectible latches, such as by stretching of the extensible members. As specific examples, the extensible members may each comprise a line or a strap carried on a spring-biased rotary spool, which urges winding up of the extensible members so that the latches are pulled to the side, with each retention member being carried by a respective side wall portion of the child safety seat. Alternatively, the extensible members may each comprise a stretchable line or strap, so that they may be

elastically stretched into a central, latching position, but they may naturally, laterally retract so they are not normally caught underneath a child that is placed in the seat.

Typically, the connectible latches each carry a hole to connect with one of the hook members. This hole is also often used in the latching process itself, so that double use is made thereof.

Thus, a child may be placed in the seat of this invention without the latches becoming lost under the child, requiring the parent to fumble underneath the child to retrieve them for locking.

DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of a child safety seat incorporating the invention.

Fig. 2 is a detailed view of one embodiment of a retention member in accordance with this invention.

Fig. 3 is a perspective view of the seat of Fig. 1, showing the child seated and strapped into the seat by the harness.

Fig. 4 is a detailed elevational view of another embodiment of a retention member for use in this invention.

DESCRIPTION OF SPECIFIC EMBODIMENTS

Referring to the drawings, Fig. 1 shows a child safety seat 10, which has a seat body 12 having opposed side wall portions 14, 16, which side wall portions are shown to also include an inverted, U-shaped carrying handle 18 having arms, 20, 22 that are conventionally attached to seat body 12.

A retention harness, generally of conventional design is present, comprising opposed harness side portions 24, 26, each having a connectable latch 28, each latch comprising a projecting flat metal latch member 32 having an aperture 34 which may be

used in the latching process, which is accomplished by latching with third, central latch 36, of conventional design, and strapped to the bottom of seat body 12 with a strap attachment 38. In the temporary position of Fig. 1, latches 28 are retained in an elevated, lateral position and spaced from each other by the engagement of a hook 40 of retention member 42, which, in the embodiment of Fig. 2, comprises a line or strap 44 that secures hook 40, with line or strap 44 being wound on a spring-biased, rotary spool 46. Spool 46 has a rotary spring 48 attached to a drum 50, around which line or strap 44 is wound. Then, spool 46 may be attached, each to one of the side wall portions 14, 16, in this embodiment to the respective legs 20, 22 of carrying handle 18 by gluing, Velcro attachment, a securing strap, or any other desired means. One such spring biased rotary spool 46 is shown in Fig. 1, and another, similar rotary spool is attached to a hook 40, and carried on the outside of other arm 20 of handle 18, with that rotary spool being attached in similar manner.

Thus, retention members of the type used herein may be either temporarily attached by any desired means, or permanently attached by comolding, gluing, or the like as part of the manufacturing process of the child safety seat, if desired.

Thus, the respective hooks 40 may be manually advanced centrally to make it an easy matter to connect with one of the respective latches 28 by means of hook 40, following which, upon release, they are spontaneously retracted to the position shown in Fig. 1.

Apart from the above distinctions, child safety seat 10 may be of conventional design.

Turning to Fig. 3, the same child safety seat is shown with a child occupying the seat. Hooks 40 are shown to be in a retracted position, but each harness side portion 24, 26 is now securing the child, with the respective, connectable latches 28 being latched into central latch 36 in a conventional manner. The hooks 40 are kept out of the way until they are needed again upon removal of the child from the seat 10, after which the respective retention members 28 may be rehooked to hook 40, to pull the connectable latches 28 to the side and upwardly, as shown in Fig. 1, to facilitate the placement of the child into the seat at a future time.

Turning to Fig. 4, an alternative design of retention member 42a is shown, to serve as a substitute for retention member 42, providing a hook 40a having a flexible or hinged locking member 52 so that each connectable latch 28 does not fall out of engagement with the connected hook 40 in an accidental manner. Hook 40a is carried on a swivel 54, which is attached to a ring 56 to an elastic strap 58, serving as a substitute for the spring-biased rotary spool 46 of the previous embodiment. Elastic strap 58 may be connected to an attachment strap 60, having a Velcro attachment, permitting it to form into a securing loop around one of the respective arms 22 or 20 of handle 18 of the child safety seat.

In another embodiment, the respective latches 28 may carry another aperture, to which the respective hooks 40 or 40a may be attached on a permanent or semi-permanent basis, so that there is no need to engage and disengage the respective hooks to the latch. The retention members 42, 42a may extend and remain attached while the respective latches 28 engage with third latch 36. This provides a simplification of the system for the user, since hooking and unhooking of the connectable latches with

the retention member 42, 42a is no longer required. If desired, the respective hooks may be replaced by some other connection technique, such as a permanent ring, an adhesive connection, or the like.

Thus, a child safety seat is provided, having significantly improved convenience of use by avoiding the situation where the harness and latches normally lie underneath the child, so that after the child is placed in the child seat, they must be removed from underneath the child.

The above has been offered for illustrative purposes only, and is not intended to limit the scope of the invention of this application, which is as defined in the claims below.